Amendments to the Claims

Claim 1 (Currently amended): A method of patterning a substrate surface using selective chemistry comprising:

at least partially covering the surface with a first plurality of molecules at least some of the first plurality of molecules each having internal bonds internal to a ring structure capable of selective reaction upon exposure to electrons, ions, photons, or heat; and

selectively reacting at least one of the internal bonds to form at least one second functional group.

Claim 2 (Original): The method of claim 1 further comprising reacting the at least one second functional group with a reactant.

Claim 3 (Original): The method of claim 1 wherein the first plurality of molecules contain at least one first functional group.

Claim 4 (Original): The method of claim 3 further comprising reacting the at least one first functional group with a reactant.

Claim 5 (Original): The method of claim 3 further comprising reacting the at least one second functional group with a reactant.

Claim 6 (Original): The method of claim 1 wherein the step of reacting is reacting with at least one electron.

Claim 7 (Original): The method of claim 6 wherein the at least one electron is provided with a scanning probe microscope tip.

Claim 8 (Previously Amended): The method of claim 6 wherein the at least one electron is provided using a mask.

Claim 9 (Original): The method of claim 6 wherein the at least one electron is provided with an electron beam.

Claim 10 (Original): The method of claim 9 wherein the electron beam is a scanned electronic beam.

Claim 11 (Original): The method of claim 6 wherein the at least one electron is patterned using projection.

Claim 12 (Original): The method of claim 1 wherein the step of reacting is reacting with at least one photon.

Claim 13 (Original): The method of claim 12 wherein the step of reacting is patterned using a mask.

Claim 14 (Original): The method of claim 12 wherein the photons are provided using a scanning probe microscope.

Claim 15 (Original): The method of claim 12 wherein the photons are directed using a scanning probe microscope.

Claim 16 (Original): The method of claim 1 wherein the step of reacting is reacting with heat.

Claim 17 (Original): The method of claim 16 wherein the heat is provided with a scanning probe microscope tip.

Claim 18 (Original): The method of claim 1 wherein the step of reacting is reacting with at least one ion.

Claim 19 (Original): The method of claim 18 wherein the at least one ion is provided by an ion beam.

Claim 20 (Previously Amended): The method of claim 18 wherein the at least one ion is provided using a mask.

Claim 21 (Original): The method of claim 18 wherein the at least one ion is patterned using projection.

Claim 22 (Original): The method of claim 1 wherein the substrate is selected from the set comprising silicon, silicon oxide, gold, silver, copper, gallium arsenide, aluminum oxide, and titanium oxide.

Claim 23 (Original): The method of claim 1 wherein the substrate is selected from the set comprising metals, semiconductors, insulators, and superconductors.

Claim 24 (Original): The method of claim 1 wherein the substrate comprises a plurality of materials.

Claim 25 (Original): The method of claim 24 wherein the plurality of materials is organized in patterns.

Claim 26 (Original): The method of claim 25 wherein the patterns are stripes.

Claim 27 (Original): The method of claim 26 wherein the patterns contain one or more geometric shapes.

Claim 28 (Original): The method of claim 25 wherein the patterns are nanopatterns.

Claim 29 (Original): The method of claim 1 wherein the substrate is a nanoparticle.

Claim 30 (Original): The method of claim 1 wherein each of the first plurality of molecules are bound to the surface.

Claim 31 (Original): The method of claim 28 wherein each of the plurality of molecules are covalently bound to the surface.

Claim 32 (Original): The method of claim 1 wherein the first plurality of molecules is disposed on a film covering the substrate surface.

Claim 33 (Original): The method of claim 32 wherein the film includes a monolayer of molecules.

Claim 34 (Original): The method of claim 33 wherein the monolayer of molecules is placed by selective attachment.

Claim 35 (Original): The method of claim 33 wherein the monolayer of molecules is placed by selective chemical attachment.

Claim 36 (Original): The method of claim 32 wherein the film includes a portion of a monolayer of molecules.

Claim 37 (Original): The method of claim 36 wherein the portion of the monolayer of molecules is placed by selective attachment.

Claim 38 (Original): The method of claim 36 wherein the portion of the monolayer of molecules is placed by selective chemical attachment.

Claim 39 (Original): The method of claim 32 wherein the film includes a portion of a multilayer of molecules.

Claim 40 (Original): The method of claim 39 wherein the portion of a multilayer of molecules is placed by selective attachment.

Claim 41 (Original): The method of claim 40 wherein the portion of a multilayer of molecules is placed by selective chemical attachment.

Claim 42 (Original): The method of claim 32 wherein the film includes a multilayer of molecules.

Claim 43 (Original): The method of claim 42 wherein the multilayer of molecules is placed by selective attachment.

Claim 44 (Original): The method of claim 43 wherein the multilayer of molecules is placed by selective chemical attachment.

Claim 45 (Original): The method of claim 1 further comprising processing the patterned surface via chemical exposure.

Claim 46 (Original): The method of claim 1 further comprising processing the patterned surface via heat.

Claim 47 (Original): The method of claim 1 further comprising processing the patterned surface via light.

Claim 48 (Original): The method of claim 1 wherein the at least one interr al bond is a labile bond.

Claim 49 (Original): The method of claim 1 wherein the step of reacting is dissociating.

Claim 50 (Original): The method of claim 1 wherein the step of reacting is dimerizing.

Claim 51 (Original): The method of claim 1 wherein the step of reacting is polymerizing.

Claim 52 (Original): The method of claim 1 wherein the step of reacting is crosslinking.

Claim 53 (Original): The method of claim 1 wherein the substrate surface is created with nanolithography.

Claim 54 (Currently amended): A method of patterning a substrate surface comprising:

overlaying at least one layer of molecules on at least a portion of the substrate surface;

selecting a plurality of molecules within the at least one layer; ~~and~~

reacting at least one internal bond of each of the plurality of selected molecules to provide a stable functional terminal group.; and

the internal bond defined as being internal to a ring structure of the molecule.

Claim 55 (Original): The method of claim 54 further comprising reacting at least a portion of the substrate surface to pattern the substrate surface.

Claim 56 (Original): The method of claim 55 wherein the at least a portion of the substrate surface includes at least a portion of the selected plurality of molecules.

Claim 57 (Original): The method of claim 55 wherein the at least a portion of the substrate surface excludes the selected plurality of molecules.

Claim 58 (Original): The method of claim 54 further comprising reacting the terminal function group to pattern the substrate surface.

Claim 59 (Original): The method of claim 54 wherein the substrate surface is a nanostructure.

Claims 60-68 (Cancelled)

Claim 69 (Currently amended): A method of patterning a substrate surface at a molecular level comprising:

at least partially covering the surface with a first plurality of molecules; and

selectively reacting at least one internal bond internal to a ring structure of one of the plurality of molecules to form at least one second functional group.

Claim 70 (Original): The method of claim 69 wherein the first plurality of molecules contain at least one first functional group, the first functional group different from the second functional group.

Claim 71 (Currently amended): A method of patterning a substrate surface using bond selective chemistry comprising:

at least partially covering the surface with a first plurality of molecules having internal bonds internal to a ring structure of each molecule and capable of selective reaction within a first functional group;

selectively reacting the internal bonds of the first functional group to form a stable reactant having a second functional group.

Claim 72 (New): The method of claim 71 further comprising reacting the stable reactant.